

INTRODUCTORY SESSIONAL ADDRESS

DELIVERED AT THE COMMENCEMENT OF THE FORTY-
SECOND SESSION OF THE SCHOOL OF PHARMACY,

October 6, 1883.

By MICHAEL FOSTER, M.A., M.D., LL.D., F.R.S.

MR. PRESIDENT, when you asked me to say a few words on this occasion, I at once said, "Yes." My experience is that when you ask anybody anything they always do say "yes;" but having said "yes," I next began to wonder why you had asked me, and I came to the conclusion that it must be because you wished to have an address from an outsider. But, sir, I am not altogether an outsider as regards pharmacy, for in times past I have rolled pills, I have folded powders, and I have written in a legible, if not in a bold, hand the directions how they were to be taken. Besides that, I have the honour to be, not a real member, but an honorary member of your Society. Still I fancy I am so far outside you that my external character will give an adventitious value to anything which I may have to say.

Now, having said "yes," my next duty was to find out what I was to talk about, and knowing there would be a distribution of prizes, my mind kept running on examinations, and I fear the few words which I shall have to speak to you to-night will deal a good deal with examinations. I fear that I may appear in this respect like a ghost at a banquet; but I may appeal to those who have received your prizes this evening, that they may be gratified that I am taking them as the topic of my discourse, and I may also appeal to those who have been unsuccessful, that they may possibly find some consolation in what I have to say.

Now we use examinations, as far as I can understand, for two purposes. In the first place, we use examinations that we may take the result of those examinations as a stamp, as a mark, as a certificate. But a stamp, a certificate, a mark of what? I wish to look at the matter somewhat carefully, and I think, perhaps, I have some little right to speak on this subject, because as a young man, although examinations were not, if I may use the phrase, so "rife" in those days as they are now, I was a good deal examined. Indeed I look back to certain years of my life as being a kind of hurdle race in examinations. It seemed to me that I had no sooner cleared one examination than there was another ahead of me. Then when I grew a little older, for as we know Time brings about a whirligig, I got as it were my revenge, and instead of being an examinee I became an examiner, and there was a time, from which I have happily escaped, when my friends told me that I was the most examining man in England. So that I think I have some right to speak on this point, and yet I feel compelled to say—and in this I recognize on this occasion my ghostly character—that the real thing of

which the result of the examinations is the stamp and the certificate, is ability and skill in passing an examination. I do not think we can go surely farther than that.

Nevertheless, we may use the examination safely in an indirect way. The stupid man and the idle man will never acquire skill and ability in passing an examination; the industrious and the clever will easily show skill in passing an examination; and we may use an examination indirectly very safely as a pass examination to separate the industrious and the clever from the idle and the stupid. But we may even then make mistakes, and those mistakes become much more probable when we use the examination as a means of sorting out people from each other; when we pass from the pass examination to the competitive examination. We have no doubt that A. is cleverer in passing an examination than B., and in all probability A. will in future life be a better man, and prove a more real man than B. But that is not always the case; the examinations often fail us in that respect. Again and again I have known men whom I have been obliged to speak of as good examination men, who did not prove of great value in after life; again and again I have known men who have not done well in the examination room, who have been of enormous value in after years. And then modern refinements have increased our difficulties.

I do not know, sir, whether you are acquainted with the poems of that vigorous old dissenter, the illustrious author of 'Robinson Crusoe,' Daniel Defoe; but he begins one of them with these remarkable lines—

"Wherever God erects a house of prayer,
The Devil always builds a chapel there,
And 'twill be found upon examination
The latter has the larger congregation."

Now, sir, whenever an examination is instituted in order to select the fit persons for this or that there always arise a certain number of people who undertake to put a lad through that examination whether he be fit or not. There are certain names given to these persons; they are sometimes called "coaches," they are sometimes called "crammers," but the name of "coach" seems to me very significant! We have an idea that the prize in an examination is given because in the race the lad arrives at the goal by the exercise of his own limbs, and that his speedy arrival at the goal is a test of the soundness of his mind and the strength of his limbs. But a "coach" takes him on his back, and lands him there; it is at his expense he is carried there, and his arrival there is a token not so much of the lad's ability, but of the "coach's" skill. I speak this advisedly, because I have had some experience of "coaches." I quite admit there are some "coaches" who gain their end by real teaching; but they have deserted their clan, they are no longer "coaches," but teachers. But all are not so, and in my experience as an examiner, I have been brought to the conclusion that coaching has now-a-days achieved the

position of a fine art, that it is an occupation of life into which a great deal of energy is directed. As far as I understand, the "coach" when he takes to coaching pupils does not consider in the first place the nature of the study, but what he is pleased to call "the examiner's mind." He makes a study first of all of the examiners. He knows their whims; he knows their fancies; he learns what answers will, if I may say so in the presence of others who are like myself examiners, tickle them most, and he directs his efforts accordingly. Indeed, sir, I understand that some of these "coaches" who have a large number of pupils take on them the functions of a general. They marshal their forces, and I know very well that in one examination where the *vivâ voce* is of some importance, a "coach" has been in the habit of sending his weak, hopeless pupils in first to know what the style of the questions was in order that the hopeful pupils might benefit by the knowledge. This is an additional, and a very serious and important additional difficulty, in taking the results of an examination as really a stamp of the merit of the candidates who have passed the examination.

But happily there is another use of examinations, a more noble one, a use which I believe to be on the whole a greater one, and that is this, that whether there be "coaches" or not the lad who goes in for an examination in any subject must in some way or another learn something of the subject. The examination compels knowledge, and there are many of us who know that but for an examination into which perhaps we entered for some partly vainglorious purpose, for the mere reason of getting a certificate or winning a medal, we might never have got an introduction to a science or a knowledge which soon fascinated us, and to which we have become attached ever since. And I believe it is probable that a great deal of the work of science is first made attractive to men who are introduced into a branch which they are afterwards destined to adorn by an examination of which when they took it in hand they had no idea either of the value or of the bearing. They have gone to it frequently for purely business ends, like Saul the son of Kish, who for business matters went to seek his father's asses and found a crown. Very often they have gone in for a medal or a certificate, and in the end have found that which was better than either medal or certificate; they have found knowledge.

Now, you will gather from what I have said, that I regard examinations as like many other things in this world, mixed in nature, partly good and partly evil, and it seems to me that one great need of the present time is to take such steps as should minimize the evil and increase the good. Now, I will venture to propose to you a paradox. I believe that the evils of examinations may be diminished, and the good may be increased, by simply multiplying them. I think the evil of examinations lies a great deal in their formal character in their being frequently one

supreme effort which is made and is left. I am inclined to regard that examination as the worst where a lad after two or three years' study on a variety of subjects, is examined in all of them in the shortest space of time. For instance, in a certain university, the subjects are so many that, as a poor, disappointed, despairing student said to me, preparing for this examination is like driving a lot of pigs. You have no sooner got hold of one subject than the others are all abroad. The worst examination seems to me to be that in which a lad brings up a number of subjects, after a somewhat lengthy preparation, before a group of strange men, of whom he knows nothing, and who know nothing of him, and before whom, to the best of his ability, he there disgorges, if I may use the phrase, his knowledge in a few hours. I do not believe that that examination is one just either to the student, or, if I may say so, to the examiner. The best examination seems to me that kind of one which is carried out in a partial manner in the School of Science at South Kensington, and which, if fully developed, takes on somewhat of this form, that a lad having to study two, three, or four subjects does not attempt to drive them, so to speak, all abreast, but takes one, or at most two, and devotes his whole attention to that one or at most two. Then as he attends the lecture, and especially as he carries out the practical work belonging to the lecture, a note is now and again taken by the teacher of the progress which he makes, and any doubt which the teacher may have is remedied by frequent informal examinations. At the end of the course there is a formal examination undertaken by the teacher, or if you please, by the teacher with the help of an assessor, in order that things may be straight and square and above-board. But I am one of those who think that no one can judge of a lad's progress like the man who has actually taught him, the more formal examination becoming, as it were, the crown of the three or four or six months' work, and the position which he gains in that subject should go as so much to his credit for his final degree or certificate. Then he would turn with a full heart and free mind to another subject, and treat that in the same thorough, honest, straightforward way. That I believe would be a kind of examination against which a coach of the utmost ability would have no power whatever. But, you will say, it would assume the form of compulsory lectures. Now, in politics, and in the general conduct of life, I am opposed to compulsion. I am one of those who believe that the art of government consists in developing the free tendencies of the people, and not in manufacturing unnecessary restrictions; that the progress of government consists in the diminution rather than the increase of laws, and that the ideal government is that which in the end finds nothing to do. I am opposed to compulsion; but I venture to think that this course which I have sketched out to you would not be a series of compulsory lectures.

For I am as opposed as possible to mere compulsory lectures. I cannot, and never could see the good of making a lad sit in the back benches and read a novel, or carve his name on the desk, while the lecturer is doing his best to open up to him grand views of the science which he is teaching. These would not be compulsory lectures; but such a course would involve compulsory study, and that compulsion I think is necessary for the good of the individual as well as the good of the public, of which he is a part. I am opposed to compulsion, but I do not think such compulsion unjust, nor do I think that legislation meddlesome or unnecessarily restrictive which gives the public security concerning the sale of things which are becoming in their nature alarmingly dangerous, and more and more alarmingly dangerous every day; which are alarmingly dangerous utterly out of proportion to the knowledge of the people who have to use them. I believe that when all people are educated there need be no restriction on the sale of drugs or poisons; but opposed to all compulsion, on principle, I still must admit that this is a case where compulsion should intervene, and if that compulsion is to intervene, I think the compulsion should be complete. If security is to be offered, I think that security should be a real one, and not a fantastic one; and I am inclined to think that that security is not to be found in a rapid examination, however conscientiously and however ably conducted; but that such a security must be found in some such course of study as I have ventured to sketch out.

But I feel that I am trespassing now on somewhat dangerous ground. A young gentleman has of recent years acquired some notoriety by his—as it seems to me—somewhat crude handling of an old topic, “Is life worth living?” And I daresay it occurs to many to put the question: “Is the pharmacist’s life so much worth having that you are ready to undergo all these examinations, and to sink the money which is involved in them?” I fancy I hear someone say, that if you attempt legislation of this kind, in your rude endeavours to increase public security you will simply overreach yourselves; that in attempting to make the gate of entrance straiter and more strait, you will simply swell the number of those who climb over the wall. I can imagine people saying, “We have spent so much money and so much time in acquiring the right to sell strychnia with our sovereign’s approval. We wait for customers but they do not come, and in the end we find a faithless public buying it clandestinely and cheaply round the corner.” This I admit is a grave and anxious matter, and one on which an outsider perhaps ought not to say much. But I would venture to remind you that this is a difficulty not confined to yourselves. My brethren, the doctors, have the same complaint. They say that if the stringency of medical examinations is to be increased in the future as it has been in the past the young gentlemen who have thus been made to sound

all the depths of biological knowledge, and to equip themselves with the whole panoply of the healing art, will never stoop to the drudgery of village practice and that our country poor will be left to the mercies of unlicensed quacks. The same cry comes also from other departments of life. The engineers have the same cry. I hear of it, too, even in the army, and it has reached the farmers. Everywhere we hear this complaint, that this science, which has turned the world upside down, has come hither also. Now is it not because science is becoming an increasingly potent factor in the struggle for human life, and is making the struggle a closer and a bitterer one? The work of science is to enable the skilled few to do the work which is done, or which used to be done, by the unskilled many. It lengthens the arm of each man, but within an area it diminishes the number of those who can live within that area. It is tightening up the whole world. Everywhere science is making itself felt, and in many respects, maybe, the whole of life is becoming one brilliant examination in science, and, moreover, the standard is raised year by year.

Now it is no good striving against the inevitable. As the story of human life unfolds each passing stage has its charms, has its good and its ill; but you cannot hope to keep the good and let go the ill of each passing phase. There was a certain pleasure in the old savage life. It was very good to pitch one’s tent where one liked without the dread of leases, of contracts, and builders’ bills; but then there was hunger and thirst, and there was bloodshed ever at hand. And I dare say many of my brothers, the doctors, think it must have been pleasant in the old times when anyone who liked, without reference to the central body, could set himself up to cure or to kill any of his neighbours who pleased to entrust their bodies to him. And I dare say it seems to you it would be a pleasant time when any of you, having found a corner house vacant and being possessed of three large bottles of coloured fluid, could at once proceed to deal out poisons to your neighbours quite regardless of Major and Minor. But I take it that my brethren, the doctors, would be very loth, with all the charms of the past, to go back eighty years, and I take it that you, too, would be unwilling to wipe out the Pharmaceutical Society and all it means, and to go back forty years. But if you do not go back, neither can you stand still. Many of you, looking back forty years, might think it was a purely voluntary act, the undertaking to institute the Pharmaceutical Society and all it meant. But, in reality, your ancestors were carried on by the spirit of revolving things, and that same spirit must carry you on to do still further things, and it is far better for you to put yourselves in harmony with the necessary course of events—much better to put your shoulder to than against the wheel of fate.

Now let me in conclusion offer one word of consolation to those who, recognizing that impending

changes are inevitable, still regard them with dread. For myself I do not from a pecuniary point of view fear that either our doctors or our pharmacists will become so superlatively educated that our country districts will be left without men to prescribe or men to dispense. I feel sure that the struggle for existence is getting far too sharp to leave any place of that kind vacant for any length of time. But some of you will say, "Yes, the places will be filled up, but they will be filled up by men far too good for them, men who will remain disappointed, and in this attempt to develop your profession you are only making efforts to increase the sum of human discontent." But these persons forget that in the first place discontent arises largely from comparisons, and as I said just now you are no worse off than other people.

All ranks are feeling the same pressure; everywhere the same place is being occupied by a better man. You will find that better men, like yourselves, are now occupying these country places in which I once rejoiced, Mr. President, but which I find are always spoken of in the terms which I have used this evening. Moreover, there is one other consolation, viz., that which you accuse of breeding this discontent goes far to take it away, for it is one of the happy features of the work of science in human life that while it is making closer and more bitter the struggle, sharpening the fight between man and man, it is at the same time opening out new capacities for enjoyment. You look back to the man who without any trouble could set up his shop where he pleased without any previous education, without any previous training; but you must remember that the life of such a man was in the vast majority of cases limited to his dinner and the tittle-tattle of the village. I feel sure that every one of you who has passed through these portals feels that there are new pleasures of life opened up to you, of which you knew nothing before you entered these doors, and I feel sure that you will leave them with the conclusion that though pounds, shillings and pence are and must always be the framework of happiness, still that the pleasures of an instructed mind are the best and most lasting habiliments of that framework. The former are the dry bones and the skeleton of happiness, but it is the latter which breathe into them the breath of life and make life a reality. Depend upon it that the money which you spend on your examination in procuring your licence is not simply returned to you in that licence, is not simply returned to you in the more lucrative trade to which that may lead, but it comes back to you every day in the greater light and the greater pleasure which you have in knowing things. That is an element which you must fairly consider when you come to ask the question whether in the face of so many examinations, so much increasing study, and so much diminishing return, a pharmacist's life is worth having.

OPINIONS OF THE PRESS UPON THE SUBJECT OF PROFESSOR ATTFIELD'S ADDRESS.

From the *British Medical Journal*, September 29.

"Professor Attfield has made out a strong case in favour of an immediate amendment of the Pharmacy Act of 1868. In his opening address as President of the Pharmaceutical Conference, at Southport, he has clearly shown that the aim of the Act in question, namely, the proper supply to the public of trustworthy drugs by duly qualified persons, has not been generally accomplished. Although Dr. Attfield's cogent criticism of the Pharmacy Act was naturally formulated from the standpoint of the pharmaceutical chemist, and directed primarily towards the support of the authority of the Pharmaceutical Society and the protection of the trade interests of his auditors, his observations cannot fail to quicken the interest of the medical profession in the reforms he advocates, and to demonstrate to the general public the pressing need for more stringent regulation of the conditions under which they purchase their medicines. A general impression has hitherto prevailed that the Pharmacy Act prevented the sale of powerful drugs, or the dispensing of prescriptions, by any but properly educated and publicly authorized persons. Dr. Attfield authoritatively informs us that the public have really no reliable guarantee that the shopkeeper who sells drugs or undertakes the compounding of prescriptions is qualified for his responsible and hazardous work. The Pharmacy Act provides, it seems, that no man shall call himself a chemist and druggist unless he has passed certain examinations, and been duly registered. But, unfortunately, it is the name only that is protected, not the exercise of the calling; the business itself is left open to anyone, without let or hindrance, and the Pharmacy Act is practically a dead letter. Anybody, as the law at present stands, is at liberty to hang a red lamp over his door, and to fill his window with the orthodox bottles of coloured water; and providing only he does not incur penalty by calling himself a chemist and druggist, to sell drugs and poisons without restriction, and to "make up" prescriptions with impunity. This practice is grossly unfair to the honestly educated and duly certificated chemist, and it constitutes a grave and widespread public peril, which cannot be suffered to continue. Dr. Attfield assures us that drugs of nearly all kinds, simple and compound, are now being indiscriminately sold by unqualified persons; that it is a notorious fact that prescriptions are dispensed, and the most dangerous drugs supplied, except only some few poisons which are scheduled in the Pharmacy Act, by barbers, book-sellers, chandlers, confectioners, drapers, general dealers, grocers, hairdressers, herbalists, ironmongers, marine-store dealers, oilmen, printers, publicans, stationers, storekeepers, tailors, tobacconists, toy-dealers and wine-merchants. The public can, more or less, judge of the quality of the food or raiment they purchase, but they cannot safely be left to protect themselves in the case of drugs. The failure of the Act has arisen from the adoption of a wrong method of protecting the public. A legal fence has been raised around a mere name. Experience has shown that the method that ought to have been adopted was that of rendering illegal the retail sale of the simple and compound drugs of the Pharmacopoeia, with certain well-recognized exceptions, by any but registered chemists and druggists, with the saving of all rights to medical practitioners. As a remedy for the evils he described, Professor Attfield advocated an extension of the principle and letter of the Pharmacy Act. It is obviously necessary, both for public safety and for the protection of the qualified chemist, to amend the Act of 1868, so that it may really accomplish the purpose for which it was ostensibly passed. It is not sufficient that an unqualified and unregistered tradesman shall be prevented from assuming the name of chemist and druggist; he must also be effectually restrained from selling drugs and compounding medical prescriptions."

REPORT ON THE PRACTICAL CHEMISTRY CLASS.

Professor ATTFIELD said he had already presented two reports to the Council, one on the School, and one on the results of the examination; he would merely state as briefly as possible the leading points of those reports. First as regards the numbers they had had a better session than for several years past, and secondly the average period for which the pupils had studied had been longer than for twenty years past. No less than twenty-eight of the pupils studied for the whole session of ten months. The number was no doubt small, but it must be satisfactory to all who were interested in carrying on the work of pharmacy that the number of men who had taken advantage of the instruction offered by the Society was now increasing every year, and that the period of study was also increasing. As to the whole class, he had to report as usual, that the attendance was good, the diligence unexceptionable, and the progress satisfactory, while the conduct of the students had been without a flaw in any one case. One feature of the session had been that the students had increased their period of study, another was that they had never held a better all-round average of ability. On the one hand they had no third-class men, but he was bound to say on the other hand they had not had men of exceptional brilliance; which perhaps might explain how it was that no pupil of the School had succeeded this year in taking the Pereira Medal. After reading the names he said he regretted that Mr. Crow was not present to receive the silver medal, but his absence was very satisfactorily accounted for by the fact that he had been selected by the Secretary of State for the Foreign Department to occupy an honourable position in pharmacy in Hong Kong and had already left England.

The following is a list of the awards of medals and certificates to students in this class:—

SESSION. TEN MONTHS.

<i>Silver Medal</i>	William Edward Crow.
<i>Bronze Medals</i>	{ Thos. Southall Dymond.
	{ David Rees.
	{ Charles Ranken.
<i>Certificates of Honour</i>	{ John Chinery Wiggin.
	{ William Lloyd Williams.
	{ Bernard Keene.
	{ Edward Baily.
	{ Francis Ransom.
<i>Certificates of Merit</i>	{ David Low.
	{ Edward Marsh.
	{ James Burden Barnes.

The following are the questions that were set in this examination:

July 13th and 14th, 1883.

(Books and Memoranda permitted.)

Standard number of Marks, 100.

FIRST DAY.

Hours 10 to 5.

1. Make a qualitative analysis of the accompanying "Mineral Water," and give the names of the salts you detect.

2. Report on the sample of "Syrup."

SECOND DAY.

Hours 10 to 3.

3. Is there any tin in the "Soup" supplied to you?

4. What substances are present in the "Teething Powder?"

NOTE.—Manipulation as well as results will be scrutinized.

The PRESIDENT then distributed the prizes to the successful students.

THE HERBARIUM PRIZE.

Professor BENTLEY next made his report as to the Herbarium Competition, in which a medal and certificate were awarded as follows:—

<i>Bronze Medal</i>	Thomas Stephenson.
<i>Certificate of Merit</i>	Frederick Miller.

THE COUNCIL EXAMINATION PRIZES.

The PRESIDENT then explained the nature of the Council Prizes, and Pereira Medal, and called upon Mr. Sidney Plowman to report with regard to them.

Mr. PLOWMAN said thirteen candidates had presented themselves for examination, but he regretted to say that after a long and anxious consultation with his colleague Mr. Southall they had been unable to recommend that the Pereira Medal should be given. But two gentlemen had achieved sufficient distinction to entitle them to the Council Prizes; their names were W. L. Williams, to whom the Silver Medal was awarded, and Edward Baily, who was to receive the Bronze Medal. He desired to say that those two gentlemen displayed great merit, but not quite such as would entitle them to the Pereira medal, which was the highest prize of the pharmaceutical year.

These prizes were therefore awarded as follows:—

Pharmaceutical Society's Medal (Silver); and Books value £3, presented by Mr. T. H. Hills.

William Lloyd Williams.

Pharmaceutical Society's Medal (Bronze); and Books value £2, presented by Mr. T. H. Hills.

Edward Baily.

The following are the questions that were set for this examination:—

BOTANY AND MATERIA MEDICA.

Time: 10 a.m. to 1 p.m.

In framing Answers, Candidates should not enlarge upon the Questions, but should confine themselves to giving, as briefly and clearly as they can, the information required.

BOTANY.

1. Give instances of irritability in the organs of plants, and describe any of the motile mechanisms connected therewith.
2. What is meant by suppression, augmentation or deduplication of the parts of a flower? Give instances.
3. What is callus? Explain its formation.
4. Describe the inflorescence and flowers of the Scotch Fir, and explain how fertilization is effected. Mention the peculiarity of the embryo.
5. Give the morphology of the sporangia of ferns.

MATERIA MEDICA.

1. What is the Botanical origin of Scammony, and how is it collected? What are the adulterations, and how may they be detected? How may it be distinguished from resin of Scammony?
2. What is the Botanical source of Duboisin, and what is its physiological effect?
3. In what part of "India" is Cinchona Bark cultivated? What species and varieties, and what modes of cultivation are best adapted for the production of Quinine yielding barks? Also what species are desirable for pharmaceutical use?
4. What is Resorcin, and what can you mention as to its uses and properties?

CHEMISTRY.

Time: 2 to 5 p.m.

1. What is the weight of 150 c.c. of the vapour of chloroform at 80° C. and 720 mm. pressure?

2. Give the formulæ and briefly describe the properties and methods of preparation of the following:—Phenol, Croton Chloral (so-called), Picric Acid, Salicylic Acid, Thymol, Ethyl Bromide, Apomorphia.

3. What is fermentation? Describe any varieties with which you may be acquainted.

4. Describe the action of an aqueous solution of hydrofluoric acid upon glass. Describe and illustrate, with equations, a process for obtaining pure silica from flint.

5. Describe briefly processes for the isolation of the following metals:—Aluminium, Magnesium, Silver, Lead, Potassium, Mercury and Calcium. Mention any evidence which can be brought forward to prove the existence of Ammonium.

6. What is the meaning of the following terms:—Homologous series, Isomerism, Allotropy, Isomorphism, Dimorphism, Actinism, Atomicity? Illustrate your meaning by examples.

THE JACOB BELL MEMORIAL SCHOLARSHIPS.

Mr. TAYLOR, being next called upon to report upon the competition for the Bell Scholarships, said that four years ago when this duty first devolved upon him he had expressed some regret that only 11 candidates competed. The following year the numbers rose considerably; in 1881 there were 18; in 1882 there were 20; and this year he was glad to say there were 25. He believed this satisfactory increase was due to the very pertinent remarks made last year by his colleague, Mr. Plowman, himself an old Bell scholar. He need not enlarge on the value of the scholarships, and he trusted that the number of competitors would be at least maintained in coming years. The examination had been conducted by Mr. Ekin and himself, and though they had no difficulty in selecting the two best men, he must say a word of encouragement to the two who came next, whose mottoes were "Aude sapere" and "Spero," who had done so well that he hoped they were young enough to try again.

The names of the successful candidates are—

Fraser McDiarmid

and

Robert Wynn Charles Pierce.

The questions that were set for this examination were as follows:—

Time allowed: Two hours (4 to 6).

CHEMISTRY AND PHARMACY.

1. Show by an equation what the result is of the action of diluted Nitric Acid on Copper.

2. What are the characteristics in common of the group of elements known as the Halogens, and whence the term Halogen?

3. How are White Precipitate and Red Precipitate prepared?

4. In what state does the Iron exist in freshly prepared Mist. Ferri Co., and what change, if any, occurs on keeping?

5. How much Oxygen and Hydrogen by weight and measure are required to form water, and what is the measure of the resulting vapour?

BOTANY.

1. Give the characteristics of any Natural Order with which you are well acquainted.

2. In what does a Dicotyledonous vary from a Monocotyledonous stem?

Time allowed: Three hours (12 to 3).

In awarding marks the neatness and legibility of the writing will be taken into account.

LATIN.

1. Translate in English:—

"Hoc erat, alma parens, quod me per tela, per ignes, Eripis? ut mediis hostem in penetralibus, utque Ascaniumque, patremque meum, juxtaque Creisam, Alterum in alterius mactatos sanguine cernam? Arma, viri, ferte arma: vocat lux ultima victos. Reddite me Danais; sinite instaurata revisam Proelia. Nunquam omnes hodie moriemur inulti."

2. Parse *eripis, mactatos, reddite, sinite*.

3. Give the present infinite and supine of *emico, excutio, repeto, requiro*.

4. Translate into Latin:—

"Water being added, it crumbles to powder."

ENGLISH.

1. Write a short essay on London, or any City of importance.

2. Parse the following lines:—

"He who fights and runs away
Will live to fight another day."

3. Give examples of Transitive and Intransitive verbs.

ARITHMETIC.

[The working of these examples, as well as the answers, must be written out in full.]

1. What are the standards of weight and capacity in England, and how are they fixed?

2. Explain the "metrical system" of weights and measures.

3. Reduce 2 weeks, 5 days, 7 hours, 27 minutes to the fraction of a day; and $2\frac{1}{2}$ cwt. to the fraction of 2 tons, 12 lbs.

4. Add $5\frac{1}{2}$ cwt. to 3·125 qrs.; and reduce the sum to the decimal of a ton.

FRENCH OR GERMAN.

The candidate is at liberty to choose either French or German, and is not required to show a knowledge of both. Marks will only be awarded for one.

FRENCH.

Translate into English:—

"Si je garde quelque empire sur ma destinée, je ne serai jamais à Paris qu'un oiseau de passage. Cette vie tumultueuse, cette distraction sans trêve, ces gens toujours debout, toujours en l'air, toujours gais, toujours fous, me font entendre aux oreilles un bruit de grelots qui m'étourdit et me gêne. Je cherche mon pauvre moi et je ne le trouve plus. Quand je suis arrivée, j'ai cru tomber dans un carnaval dont j'attendais toujours la fin, mais inutilement, car il ne finit point, et c'est ici le fonds même de sa vie. Tous ces gens vont, viennent, s'agitent, s'empressent, se moquent et meurent tout à coup. La mort à Paris m'étonne toujours; elle ne m'y paraît pas naturelle. Tout est si factice à l'entour que ce détail y choque comme un accident dans une fête. C'est la seule loi réelle de la vie qu'on n'y puisse oublier, parce qu'elle s'impose. Il me semble qu'on y méconnaît toutes les autres. L'accessoire, le luxe, l'ornement, la broderie, sont le principal et le tout. On vit de gâteaux, et point de pain." (OCTAVE FEUILLET.)

GERMAN.

Translate into English:—

"Verona die alte weltverühmte Stadt, gelegen auf beiden Seiten der Etsch, war immer gleichsam die erste Station für die germanischen Wandervölker, die ihre kalte nordische Wälder verließen, und über die Alpen stiegen, um sich im goldnen Sonnenschein des lieblichen Italiens zu erlustigen. Einige zogen weiter hinab, Anderen gefiel es schon gut genug am Orte selbst, und sie machten es sich heimlich bequem und zogen seidne Hausgewänder an, und ergingen sich friedlich unter Blumen und Cypressen, bis neue Ankömmlinge, die noch ihre frischen Eisenkleider anhatten, aus dem Norden kamen und sie v drängten,—eine Geschichte die sich oft wiederholte

und von den Historikern die Völkerwanderung genannt wird. Wandelt man jetzt durch das Weichbild Verona's so findet man überall die abenteuerlichen Spuren je n' Tage, so wie auch die Spuren der älteren und späteren Zeiten." (HEINE.)

THE INAUGURAL SESSIONAL ADDRESS.

THE PRESIDENT having distributed these prizes, an Address was delivered by MICHAEL FOSTER, M.A., M.D., LL.D., F.R.S., Professor of Physiology in the University of Cambridge. The Address is printed at the commencement of the present number. At its conclusion,

Sir FREDERICK ABEL, in proposing a vote of thanks to Professor Foster, said there could be no one in the assembly who had listened with greater interest or pleasure to the words of wisdom which he had uttered. Although he (Sir F. Abel) had not that vast experience as an examiner which Professor Foster might claim, he had had a large experience years ago as an examiner. The unfortunate victims who came before him were of a different class altogether from those he now addressed, or to whom Professor Foster had referred. It had been his painful duty to examine youths on entering the military schools, to examine them while passing through the schools, on leaving, again when as officers they re-entered the schools, and when they again passed out, and again to submit them to the same process when passing to a higher grade in the service; and from his experience he could re-echo all that had been said as to examinations and as to many of the evils which attended them. One point struck him very forcibly, viz., that the teacher was the best possible judge of the powers and capacities of those studying under him. Nevertheless, in the wisdom which guided one large branch of the service it was held desirable not to appeal to the men who should best know the qualifications of those who had been educated there, and it was considered better to submit those men to the torture of unbiassed examiners, as they were called, who were accustomed by long practice to put the questions which men should answer in the form in which they were least likely to answer them. Consequently, in many cases the unready man, whom the teacher would put forward as the best man of his class, came out at the bottom. It was true that much of this evil was guarded against by the zealous efforts of the teachers themselves. He believed in examinations, and when years ago he was a teacher, he used to endeavour to follow in the steps of one of his great masters, Faraday, whom he had the honour of succeeding at Woolwich, and who used so to interlard his lectures with questions that the lecture might almost be considered an examination. And he did it in such a pleasant manner as never to discourage even the most backward. He remembered his asking on one occasion, "Mr. So-and-So, what will happen when I plunge this taper into this bottle of oxygen?" The youth scratched his head and said, "It will go out, sir." "Not precisely," said Faraday, as if the answer was almost correct. The characteristic of a true teacher was that he not merely demonstrated a fact, but continually sounded his pupils to see what knowledge they had acquired.

Professor H. A. ARMSTRONG, F.R.S., seconded the motion, and desired to thank Professor Foster for the important essay on examinations which he had given them. As a teacher and an examiner, although with but short experience as yet, he could vouch for the truth of what had been said. With reference to the course of study carried on in that institution and elsewhere he should like to remark that what was required in his opinion in all such schools was not so much that a man should gain a more or less superficial knowledge—as it must be from the time they could devote to the work—of several subjects, but that a few subjects should be so well studied that the power of

carrying on study afterwards might be acquired. All who had been a few years out of their student's course knew that what they had learned since was very great indeed, as compared with what they learned during their student's career. It was the habit of work which was the most valuable thing learned.

The resolution was carried with acclamation, and briefly acknowledged by Professor Foster.

PRESENTATION OF THE HANBURY MEDAL.

THE PRESIDENT said the next part of the programme was of a different character from the first, which had been more or less connected with the work of students and examinations. He now had to perform, in conformity with a trust which devolved on the Council of the Pharmaceutical Society, another duty of a very agreeable character, that of handing over one of the greatest honours which could possibly be offered in the domain of the particular branch of science included in the trust to a gentleman who was selected *without examination*. Before, however, handing over the Hanbury Medal, it would be necessary to state the circumstances under which it was founded. Mr. Daniel Hanbury, a distinguished member of the Society, and at the time of his death in 1875 probably one of the greatest, if not the greatest pharmacologist in the world, died at a comparatively early age, far too early for the work he might have accomplished. He had done so much work for the advancement of pure science, especially that of pharmacology, that it was thought only fit and proper that some memorial of him should be established in connection with pharmacy. Accordingly, a limited subscription was suggested and immediately responded to; the result was, that shortly after his death, a fund was raised, and the influential Committee that had charge of it, decided that the best way of perpetuating Daniel Hanbury's memory would be to award a gold medal biennially for high excellence in the prosecution of original research in the chemical and natural history of drugs. There was no limit as to country or place. It was a medal open to all the world. A trust-deed was drawn to meet the resolutions of the Committee and the Pharmaceutical Society was made the trustee. It was also decided that the adjudicators of the Medal should be the Presidents for the time being of the Linnean, Chemical and Pharmaceutical Societies, the President of the British Pharmaceutical Conference, and one pharmaceutical chemist, who should, prior to each award, be appointed by the Presidents of the Pharmaceutical Society and Conference. The first award was made to a distinguished German, who was Daniel Hanbury's coadjutor and friend, being the joint author with him of one of the works by which he was best known, the 'Pharmacographia,' viz., Professor Flückiger. This year the judges, having taken the matter into consideration and considered the claims of American, European, British and Irish competitors for the Medal, came to the conclusion that the person of all others deserving the award on this occasion was an Englishman,

MR. JOHN ELIOT HOWARD.

He held in his hand the official award, which he need not read, signed by Sir John Lubbock, Dr. Perkin, Dr. Attfield, Henry B. Brady and himself. He regretted that owing in the one case to domestic affliction, and in the others to accidental circumstances, Sir John Lubbock, Dr. Perkin and Mr. Brady

were not able to be present, but they desired him to express to Mr. Howard their extreme regret at not being able to assist at this award. It would ill become him to attempt to enumerate Mr. Howard's qualifications, but he might just say that his scientific work had been very largely, almost exclusively, in the chemistry and natural history of one single bark, the cinchona bark, the importance of which everyone present thoroughly recognized. He had before him three volumes with which Mr. Howard was more or less identified, and in one of them there were illustrations and a description of no less than forty-two species of cinchona. These, with many others, had been studied by Mr. Howard for many years at an enormous expense, for the benefit not only of those who were interested in pharmacology, but all mankind. For having regard to the value of the barks themselves, and the alkaloid quinine, it would have been impossible for the Government of India, and private growers of bark in Ceylon, to have carried on their operations with satisfaction and certainty if they had not been assisted from first to last by Mr. Howard, and the skill he had brought to bear upon the whole subject. Without saying more he would ask Mr. Howard to receive this medal and offer him most cordially not only his own respectful congratulations, but those of every pharmacologist in the world.

Mr. J. E. HOWARD said words would fail him to express the deep gratification which he experienced in receiving this proof of the appreciation of those for whose judgment he had so great respect. With regard to whatever he might have done in the way of scientific labour, he must say he considered himself still a student, and though he was happy to say he had not been subjected to an examination, he was a member of that Society. He was particularly gratified at receiving this medal, because it reminded him of the great assistance and sympathy he had received from the illustrious man in whose honour it was founded. His own love for science had sprung up spontaneously, and he followed it, not with any expectation of reward, but simply from the pleasure it afforded him. But he was induced and helped forward to publish the results of his observations more by Mr. Hanbury than any one else, and it was therefore to him very specially and exclusively that in looking back he might say he owed whatever advantage might have accrued to himself or others—from the publication of his researches. At that late hour he ought not to detain the meeting longer, though he should have liked to say a few words for the encouragement of his fellow students. He trusted they would all find the same interest that he had found in the study of the works of the Great Creator, and that they would all feel that which he would particularly seek to impress upon them, that there was no real contradiction between Christianity and Science. For himself he considered it the highest honour to be a Christian.

W. Johnstone.—(1) *Rhamnus catharticus*. (2) *Clematis Vitalba*. (3) *Artemisia vulgaris*. (4) *Odontites rubra*. Biberon.—*Viburnum Lantana*.

R. S. P.—Section xv. of the Pharmacy Act, 1868, enacts that "any person who shall take, use, or exhibit the name or title 'pharmaceutical chemist,' 'pharmaceutist,' or 'pharmacist,' shall be liable to pay a penalty of £5."

E. V. Z.—In all English colonies where Pharmacy Acts are in force, we believe without exception, the Minor qualification is accepted as entitling to registration without further examination. In the United States this is not generally the case.

Proceedings of Scientific Societies.

BRITISH PHARMACEUTICAL CONFERENCE.

A meeting of the Executive Committee was held at 17, Bloomsbury Square, on Wednesday, October 3.

Present—Mr. J. Williams, President, in the chair; Professor Attfield, Messrs. S. R. Atkins, Borland, Hills, Naylor, Radley, Schacht, Taylor and Young; Mr. Ekin (Treasurer), and Mr. Plowman (Hon. Secretary).

The minutes of the previous meeting was read and confirmed.

Letters of apology for non-attendance were read from Messrs. Benger, Payne and Stephenson.

With regard to the distribution of the presidential addresses, delivered by Professor Attfield at the Southampton and Southport meetings, it was moved by Mr. Schacht, seconded by Mr. W. Hills, and carried:—"That in accordance with the generally expressed wish of the general meeting of the Conference at Southport, it is desirable that the two addresses delivered by the late President, Professor Attfield, F.R.S., be distributed to members of both Houses of Parliament."

Professor Attfield presented the Conference with a sufficient number of copies of his first address for this resolution to be carried out. It was further resolved that the cost of printing, enclosing the two addresses in a cover, and adding any press notices, etc., be defrayed by the Conference. Professor Attfield was requested to distribute the copies either direct or, as far as possible, through gentlemen personally acquainted with members of Parliament.*

A Sub-Committee, consisting of the President, Professor Attfield and the Honorary Secretaries was appointed to arrange details.

Professor Attfield announced that he had already received applications from thirty individual chemists and druggists and two local associations for parcels of the Southport address, with added press notices. Twenty of these requests were for parcels of fifty, eight for packages of one hundred, one for two hundred copies, one for two hundred and fifty, one for five hundred, and one request for one thousand copies. The Committee agreed that the type of the 'Year-Book' should be used for such reprints, allowed the extension of the pamphlet from twenty-eight to thirty-two pages for the addition of press notices, and authorized the printers, Messrs. Butler and Tanner, Frome, Somerset, to supply the parcels requested and any others for which they might receive applications from chemists and druggists at the following rates, carriage paid:—Fifty for 4s. 6d.; one hundred for 7s. 6d.; five hundred for 32s.; one thousand for £3. Applications to be made to Messrs. Butler and Tanner as soon as possible.

The following gentlemen having signified their willingness to act as Honorary Colonial Secretaries for the undermentioned districts were unanimously appointed:—

Mr. H. Shillinglaw, Melbourne, for Victoria; Mr. L. B. Bush, Bathurst, for New South Wales; Mr. T. M. Wilkinson, Dunedin, for New Zealand; Mr. A. Walsh, Port Elizabeth, for the Cape; Mr. H. S. Evans, F.C.S., Montreal, for Canada; and Mr. D. S. Kemp, Bombay, for Bombay.

The President and Honorary Secretaries were empowered to add to this list, before the next meeting of the Committee, the names of any gentlemen who had already been communicated with and who might announce their willingness to give their services to the Conference.

* Any pharmacist willing to assist in thus approaching members of Parliament should write for copies to Professor Attfield, 17, Bloomsbury Square, as early as possible.

COMMUNICATIONS, LETTERS, etc., have been received from Dr. MacMunn, Messrs. Benger, Quinlan, Umney, Symons, Haydon, Stanford, Wood, Baker, Quina, J. A. H.